U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL TECHNOLOGY VERIFICATION PROGRAM

October 2003

Welcome to ETVoice! Our monthly message contains brief headlines of the latest developments in the ETV Program, and directs you to where you can find more detailed information on our Web site or through EPA or ETV partner contacts. We hope you find this service useful and welcome your comments and suggestions.

OVER 240 TECHNOLOGIES VERIFIED

The ETV Program has verified the performance of over 240 technologies! All verification statements and reports can be accessed on the ETV Web Site at http://www.epa.gov/etv/verifications/verification-index.html.

FUEL CELL VERIFIED

The ETV Greenhouse Gas Technology Center, in cooperation with Southern Research Institute, has verified the performance of the Plug Power Stationary Unit 1 (SU1) Fuel Cell System, one of the first commercially available proton exchange membrane (PEM) fuel cell systems. This fuel cell is designed for distributed electrical power generation. The verification test was conducted in partnership with the New York State Energy Research and Development Authority (NYSERDA) at a private residence in Lewiston, NY. The verification report and statement are available on the ETV Web Site at http://www.epa.gov/etv/pdfs/vrvs/03_vr_plugpower.pdf and http://www.epa.gov/etv/pdfs/vrvs/03_vs_plugpower.pdf, respectively.

MICROTURBINE COMBINED HEAT AND POWER SYSTEM VERIFIED

The ETV Greenhouse Gas Technology Center, in cooperation with Southern Research Institute has verified the performance of the Capstone 60 MicroTurbine System by CDH Energy Corporation. The primary components of this combined heat and power system are a Capstone 60 MicroTurbine and a Unifin International heat exchanger. This technology was verified in collaboration with the New York State Energy Research and Development Authority (NYSERDA) and the verification test was conducted at a supermarket in Hauppage, NY. The verification report and statement are available on the ETV Web Site at

http://www.epa.gov/etv/pdfs/vrvs/03_vr_capstone60.pdf and http://www.epa.gov/etv/pdfs/vrvs/03_vs_capstone60.pdf, respectively.

NATURAL GAS DEHYDRATION TECHNOLOGY VERIFIED

The ETV Greenhouse Gas Technology Center, in cooperation with Southern Research Institute, has verified the performance of the Quantum Leap Dehydrator (QLD) manufactured by Engineered Concepts, LLC. The QLD is designed for emission control of criteria pollutants, hazardous pollutants, and greenhouse gases. The performance verification test was conducted at the Kerr-McGee Gathering Station in Brighton, CO. Tests consisted of a seven-day operational performance monitoring period followed by environmental performance testing. The verification report and statement are available on the ETV Web Site at http://www.epa.gov/etv/pdfs/vrvs/03_vr_quantum.pdf and http://www.epa.gov/etv/pdfs/vrvs/03_vs_quantum.pdf, respectively.

ARSENIC TEST KITS VERIFIED

The ETV Advanced Monitoring Systems Center, in cooperation with Battelle, has verified the performance of five portable analyzers for arsenic in water. The five analyzers are: Quick Low Range, Quick Low Range II, Quick Ultra Low II, and Quick II, all by Industrial Test Systems, Inc., and PDV 6000 with VAS Version 2.1 Software by Monitoring Technologies International, Pty. Ltd. The four Industrial Test Systems Quick test kits are portable, rapid devices designed for on-site analysis of arsenic in water. The PDV 6000 is a portable analyzer designed for the on-site rapid analysis of heavy metal ions and, for this test, was used to measure arsenic in water. The verification reports and statements are available on the ETV Web Site at http://www.epa.gov/etv/verifications/vcenter1-21.html.

RESIDENTIAL NUTRIENT REDUCTION TECHNOLOGY VERIFIED

The ETV Water Quality Protection Center, in cooperation with NSF International, has verified the performance of the Bio-Microbics, Inc., RetroFAST 0.375 System, a submerged attached-growth biological treatment system for nitrogen reduction in domestic wastewater from individual residential homes. The verification testing was conducted over a twelve-month period at the Mamquam Wastewater Technology Test Facility (MWTTF), located at the Mamquam Wastewater Treatment Plant which serves the District of Squamish, British Columbia, Canada. The verification test included monthly sampling of the influent and

effluent wastewater, and five test sequences designed to test the unit response to different load conditions and power failure. The verification report and statement are available on the ETV Web Site at http://www.epa.gov/etv/pdfs/vrvs/09_vr_retrofast.pdf and http://www.epa.gov/etv/pdfs/vrvs/09_vs_retrofast.pdf, respectively.

ANIMAL WASTE TREATMENT SOLIDS SEPARATION TECHNOLOGY VERIFIED

The ETV Water Quality Protection Center, operated in cooperation with NSF International, has verified the performance of the Triton Systems, LLC, Solid Bowl Centrifuge Model TS-5000. The TS-5000 is designed to remove solids from swine wastewater-wash systems, and is intended to return an effluent with less organic content, reduce subsequent wastewater treatment capacity requirements, and provide a solid material that can be used as fertilizer/soil amendment. The verification test was conducted by North Carolina State University's Biological and Agricultural Engineering Department in Raleigh, NC. The verification report and statement are available on the ETV Web Site at http://www.epa.gov/etv/pdfs/vrvs/09_vr_triton.pdf and http://www.epa.gov/etv/pdfs/vrvs/09_vs_triton.pdf, respectively.

UV DISINFECTION SECONDARY EFFLUENT/ WASTEWATER REUSE TECHNOLOGY VERIFIED

The ETV Water Quality Protection Center, in cooperation with NSF International, has completed performance verification of three ultraviolet (UV) disinfection systems for treatment of secondary wastewater effluent. The three systems are: LPX200 UV Disinfection System by SUNTEC environmental, Inc.; Aquaray 40 HO VLS Disinfection System by Ondeo Degremont, Inc.; and bersonInLine 4250 UV System by Aquionics, Inc. The verification tests were conducted at the Parsippany-Troy Hills Wastewater Treatment Plant (PTRH) in Parsippany, NJ. The verification reports and statements are available on the ETV Web Site at http://www.epa.gov/etv/verifications/vcenter9-5.html.

MERCURY CONTINUOUS EMISSION MONITORS VERIFIED

The ETV Advanced Monitoring Systems Center, in cooperation with Battelle, has verified the performance of five continuous emission monitors (CEMs) to measure mercury emissions. The five monitors are: Sir Galahad II by PS Analytical, Ltd.; Argus-Hg 1000 by Envimetrics; DM-6D/DM-6P and MS-1/DM-5 both by Nippon Instruments Corporation; and Hg-200 by Opsis AB. The purpose of this verification test was to evaluate the performance of the monitors at a full-scale field location, over a substantial

duration of continuous operation. The CEMs were challenged by stack gases generated from the thermal treatment of a variety of actual wastes in the Toxic Substances Control Act Incinerator (TSCAI) at the East Tennessee Technology Park in Oak Ridge, TN. The verification reports and statements are available on the ETV Web Site at http://www.epa.gov/etv/verifications/vcenter1-11.html.

UV CURABLE COATING VERIFIED

The ETV Pollution Prevention (P2) Innovative Coatings and Coating Equipment Pilot, in cooperation with Concurrent Technologies Corporation, has verified the performance of the KrohnZone 7014 developed by Allied PhotoChemical. This innovative liquid coating is UV-curable and is intended for automotive manufacturing applications. The verification report and statement will be available on the ETV Web Site.

HIGH-VOLUME LOW-PRESSURE PAINT SPRAY GUN VERIFIED

The ETV Pollution Prevention (P2) Innovative Coatings and Coating Equipment Pilot, in cooperation with Concurrent Technologies Corporation, has completed performance verification of the LPH400-LV developed by ANEST IWATA Corporation. This high-volume low-pressure (HVLP) liquid paint spray gun is designed for applications in the automotive refinishing industry. Potential environmental benefits of a HVLP spray gun include a drop in paint usage and subsequent reduction of volatile organic compound and hazardous air pollutant emissions and solid waste disposal. The verification report and statement will be available on the ETV Web Site.

NEW ETV PROTOCOLS COMPLETED

The ETV Program recently completed a number of new verification protocols, as well as revisions to several existing protocols. For a complete listings of ETV protocols please visit the ETV Web Site at http://www.epa.gov/etv/verifications/protocols-index.html.

ADVANCED MONITORING SYSTEMS CENTER SOLICITS TECHNOLOGY VENDORS

The AMS Center, operated by Battelle, invites vendors and partners to participate in verification tests of the following technologies:

AIR

Mercury CEMs - phase III at a coal-fired facility. Interested

vendors should contact Rachel Sell, Battelle, at (614) 424-3579 or sellr@battelle.org.

Ammonia continuous emission monitors for gas turbine facilities. Interested vendors should contact Rachel Sell, Battelle, at (614) 424-3579 or sellr@battelle.org.

Portable multi-gas emission analyzers - second round. For more information, contact Jeff Myers, Battelle, at (614) 424-7705 or myersjd@battelle.org.

WATER
Portable water detectors for arsenic - third round. For more information, contact Patricia White, Battelle, at (781) 952-5279 or whitepj@battelle.org.

Beach monitoring technologies. Interested vendors should contact Amy Swiecichowski, Battelle, at (561) 656-6304 or swiecichowskia@battelle.org.

WATER SECURITY
Immuno-assay test kits for biotoxins. For more information, contact Kathya Mahadevan, Battelle, at (614) 424-3197 or mahadevank@battelle.org.

Rapid PCR technologies. Interested vendors should contact Stephanie Buehler, Battelle, at (614) 424-3972 or buehlers@battelle.org.

Enzymatic test kits for chemical agents. Interested vendors should contact Kathya Mahadevan, Battelle, at (614) 424-3197 or mahadevank@battelle.org.

Cyanide analyzers - second round. Interested vendors should contact Kathya Mahadevan, Battelle, at (614) 424-3197 or mahadevank@battelle.org.

Technologies with water monitoring capabilities that could support homeland security needs, i.e., technologies that can detect biological and chemical agents. For further information, contact Ryan James, Battelle, at (614) 424-7954 or jamesr@battelle.org.

SAFE BUILDINGS AIR DETECTION TECHNOLOGY VENDORS SOLICITED
The ETV Program, through an agreement with Battelle, invites vendors of technologies with air monitoring capabilities that could

support homeland security needs, i.e., technologies that can detect biological and chemical agents, such as anthrax and explosives. For more information, please contact Eric Koglin, EPA, at (702) 798-2332 or koglin.eric@epa.gov.

BUILDING DECONTAMINATION CENTER SOLICITS TECHNOLOGY VENDORS

The BDT Center, through an agreement with Battelle, invites vendors of building decontamination technologies that could support homeland security needs, i.e., technologies that can decontaminate indoor surfaces and materials contaminated with biological or chemical agents, such as anthrax, mustard or nerve agents, etc. For more information, please contact John Chang, EPA, at (919) 541-3747 or chang.john@epa.gov.

DRINKING WATER SYSTEMS CENTER SOLICITS TECHNOLOGY VENDORS

The DWS Center, operated by NSF International, is soliciting vendors of the following technologies:

Commercial-ready technologies designed for the residential treatment of water for reduction of chemical and biological agents as they relate to homeland security. For more information, please contact Bruce Bartley, NSF, at (734) 769-5148.

Arsenic reduction technologies for small systems for verification testing in the states of Nevada and California. For more information, please contact Bruce Bartley, NSF, at (734) 769-5148.

GREENHOUSE GAS TECHNOLOGY CENTER SOLICITS TECHNOLOGY VENDORS

The GHG Center, operated by Southern Research Institute, is soliciting vendors of the following technologies:

Improved engine and axle lubricants for light-duty trucks and sport utility vehicles (SUVs). For more information, please contact Elaine Ball, SRI, at (919) 806-3456.

Anaerobic waste digester technologies, waste additives, biogas clean-up and utilization technologies, and other technologies that improve the environmental performance of animal or human waste management systems. For more information, please contact Elaine Ball, SRI, at (919) 806-3456.

WATER QUALITY PROTECTION CENTER SOLICITS TECHNOLOGY VENDORS

The WQP Center, operated by NSF International, is soliciting vendors of commercial-ready technologies for treatment of water generated during building or equipment decontamination for chemical and biological agents as they relate to homeland security. For more information, please contact Tom Stevens, NSF, at (734) 769-5347.

ETV STAKEHOLDER MEETINGS

November 6, 2003 - The Greenhouse Gas Technology Center Advanced Energy Stakeholder Meeting has been rescheduled for November 6, in Washington, DC. For more information, please visit http://www.sri-rtp.com/.

November 20, 2003 - The Drinking Water Systems Center has scheduled its annual Stakeholder Meeting for Thursday, November 20, at the NSF International Headquarters in Ann Arbor, MI. The meeting will take place from 8:30 a.m. until approximately 3:30 p.m.

UPCOMING CONFERENCES/MEETINGS

A complete list of ETV meetings, conferences, and presentations is available from the ETV Calendar at http://www.epa.gov/etv/calendar/index.html. Meetings that may be of particular interest at which ETV is exhibiting and/or presenting:

November 2-6, 2003 - The American Water Works Association (AWWA) Water Quality Technology Conference and Exposition will be held November 2-6, in Philadelphia, PA. This forum focuses on the central issue of public health protection and stewardship of water, and provides discussions on the most pressing drinking water quality issues facing the industry. The Drinking Water Systems Center will participate and the Advanced Monitoring Systems Center will present. The ETV Program will exhibit. For more information, please visit http://www.awwa.org/conferences/wqtc/.

November 9-13, 2003 - The SETAC 24th Annual Meeting in North America "Science Without Borders: Developing Solutions for Global Environmental Challenges," will be held November 9-13, at the Austin Convention Center in Austin, TX. This year's theme reflects SETAC's support for cooperation among members from the basic sciences, applied science, and engineering to develop solutions at the local, regional and global scale. The Advanced Monitoring Systems Center will present and the ETV Program will exhibit. For more information, please visit

http://www.setac.org/austin.html.

November 16-19, 2003 - The Water Environment Federation TMDL 2003 Conference will be held November 16-19, in Chicago, IL. The conference includes 18 technical sessions and 3 workshops, with over 100 speakers who will provide up-to-date information on technical requirements for developing TMDLs; new research, such as model development; and advancements in water quality monitoring. The ETV Program will exhibit. For more information, please visit http://www.wef.org/conferences/index.jhtml.

November 17-19, 2003 - The Emergency Management/Homeland Security Exposition EMEX 2003 will be held November 17-19, at the Rosen Centre in Orlando, FL. The exposition is hosted by the International Association of Emergency Managers (IAEM), and is intended to bring together homeland security and disaster preparedness suppliers and decision makers. The ETV Program will exhibit. For more information, please visit http://www.emex2003.com/default.asp.

December 2-4, 2003 - The 2003 SERDP/ESTCP Technical Symposium and Workshop "Partners in Environmental Technology" will be held December 2-4, at the Marriott Wardman Park Hotel in Washington, DC. This year's symposium and workshop will include technical sessions focused on meeting DoD's environmental challenges, networking opportunities, and an exhibit hall containing more than 200 posters and 20 exhibit booths. The ETV Program will exhibit. For more information, please visit http://www.serdp.org/symposiums/symposiums.html#UpcomingSymposium.

December 8-11, 2003 - The 14th Annual International Workshop on Alternatives to Toxic Materials in Industrial Processes (Formerly International Workshop on Solvent Substitution) will be held December 8-11, at the Radisson Scottsdale in Scottsdale, AZ. Workshop topics will include: Transition, Implementation and Commercialization of Innovative Technologies and Processes; Non-Metal Coatings; and Cost/Benefit Analyses of Alternative Technologies. Mike Kosusko, EPA, of the ETV Pollution Prevention (P2) Innovative Coatings and Coating Equipment Pilot will present. For more information, please visit http://www.exchangemonitor.com/calendar.htm.

JOINING ETVOICE

If your colleagues are interested in subscribing to ETVoice, they can do so on the ETV Web Site at http://www.epa.gov/etv/etvoice/subscribe.html.

If they do not have Internet access, your peers may send a blank message to: ETVoice-subscribe@lists.epa.gov

To unsubscribe from the list, send a blank message to: ETVoice-unsubscribe@lists.epa.gov

Visit the ETVoice Archive at http://www.epa.gov/etv/etvoice/index.html to catch up on information previously highlighted. The ETV Web Site, at http://www.epa.gov/etv/, has additional information on the ETV Program covering general program topics, as well as detailed information on each of the ETV verification centers. We hope that you will find this service to be helpful and informative, and look forward to hearing from you. Comments and suggestions are encouraged and can be e-mailed to waits.abby@epa.gov.

Abby Waits
Environmental Technology Verification (ETV) Program
ETV Coordination Staff